

Amendments to the Claims

Claims 1-24 are not amended in the present Response to Office Action. Thus, the following Listing of Claims is as originally presented.

Listing of Claims:

- 1 (original): A method of screening for a gene affecting cardiac function after or during hypoxia or anoxia, comprising the steps of:
 - a exposing an adult *Drosophila* to conditions able to induce cardiac hypoxia or anoxia;
 - b imaging the heart of said *Drosophila*;
 - c measuring the movements of the heart in the image; and
 - d analyzing the measurements of said movements; and
 - e identifying a gene affecting the cardiac function of said *Drosophila*.
- 2 (original): The method of claim 1, further comprising exposing said *Drosophila* to change in temperature.
- 3 (original): The method of claim 1, wherein said gene affects an age-related change in said cardiac function.
- 4 (original): The method of claim 1, wherein said *Drosophila* is a *Drosophila melanogaster*.
- 5 (original): The method of claim 1, wherein said imaging said heart comprises positioning said *Drosophila* under a microscope so that the light beam of said microscope is generally perpendicular to the frontal plane of said *Drosophila* and is directed on the heart of said *Drosophila*.
- 6 (original): The method of claim 5, wherein at least one contrast enhancement means is combined with said microscope to improve said image of said heart.

- 7 (original): The method of claim 5, wherein said microscope is a fluorescence microscope and wherein said *Drosophila* expresses a fluorescent protein in said heart able to be detected by said fluorescent microscope.
- 8 (original): The method of claim 7, wherein said fluorescent protein is fluorescent green protein.
- 9 (original): The method of claim 1, wherein said movements are the movements of the walls of said heart.
- 10 (original): The method of claim 1, wherein said analyzing said measurements corresponds to determining the heart rate.
- 11 (original): The method of claim 1, wherein said measuring said movement is obtained using movement detection software.
- 12 (original): The method of claim 1, wherein said analyzing said measurements comprises comparing said measurements to a control set of data.
- 13 (original): The method of claim 1, wherein said gene has a mutation.
- 14 (original): The method of claim 13, wherein said mutation causes a change in expression of said gene.
- 15 (original): The method of claim 14, wherein said change in expression of said gene causes an age-related change in said cardiac function.
- 16 (original): The method of claim 13, wherein said mutation causes an age-related change in cardiac function.

17 (original): A method of screening for agents affecting cardiac function after or during hypoxia or anoxia, comprising the steps of:

- a exposing an adult *Drosophila* to conditions able to induce cardiac hypoxia or anoxia;
- b exposing said *Drosophila* to an agent;
- c imaging the heart of said *Drosophila*;
- d measuring the movements of said heart in said image;
- e analyzing the measurements of said movements; and
- f identifying an effect of said agent on the cardiac function of said *Drosophila* by comparing said analysis to a control.

18 (original): The method of claim 17, further comprising exposing said *Drosophila* to change in temperature.

19 (original): The method of claim 17, wherein the effect of said agent on age-related changes in the cardiac function is determined.

20 (original): The method of claim 17, wherein said measurements are compared to a control set of data.

21 (original): The method of claim 17, wherein the movements are movements of the walls of said heart.

22 (original): The method of claim 17, wherein said analyzing comprises determining the heart rate of said *Drosophila*.

23 (original): The method of claim 17, wherein said measuring is obtained using movement detection software.

24 (original): The method of claim 17, wherein said *Drosophila* is a *Drosophila melanogaster*.